



The Japan Society for Precision Engineering

Introduction of JSPE PRIZES 2019

1. Toshiyuki OBIKAWA (*Tokyo Denki University*)

Professor Toshiyuki Obikawa has been dedicated to carrying out the cutting and grinding process and has contributed significantly to manufacturing science by authoring more than 150 papers. He established a finite element analysis for understanding chip formation during the cutting of materials. In terms of industrial research, he has studied micro forming, developed a special cutting tool with built-in sensors, and established jet coolant technology for improvement of tool life. With respect to his contributions to grinding processes, he applied the Markov process to the probabilistic model in the edge fracture mechanism of abrasive grains.

He has worked as a professor at Tokyo Institute of Technology from 1998-2006. He then moved to the Institute of Industrial Science, the University of Tokyo in 2007 and established the Consortium for Manufacturing Innovation (CMI) to promote advanced technologies for aircraft manufacturing. He currently works as a specially appointed professor at Tokyo Denki University. He has contributed significantly to the Japan Society for Precision Engineering (JSPE) as well as other academic societies, and was the Vice-president of the JSPE from 2010 to 2011. Regarding government works, he managed to realize the Cross-ministerial Strategic Innovation Promotion Program (SIP) as a vice Program Director. He has provided notable educational contributions and published many books to summarize cutting technologies. He was awarded the JSPE Prize in 2019 for his contributions to precision engineering in terms of academic researches, educational works, and government activities.



Fig. 1. Commemorative lecture: Toshiyuki Obikawa.

2. Kiyoshi TAKAMASU (*The University of Tokyo*)

Professor Kiyoshi Takamasu has been engaged in

the research of precision measurement for a long time and applied the uncertainty evaluation and self-calibration methods to optical nanometer measurement based on his original intelligent nano-measurement concept. He has then opened up new research areas for developing intelligent measurement technology, nanometer standard measurement technology, and nanometer processing measurement technology. The research results are highly valued not only by academic societies but also by industries.

As a high evaluation of his research results, he has received the Best Paper Awards of the JSPE for proposing an accurate evaluation method and calibration method of mechanisms (2007), research on nano-stereolithography (2008), super-resolution optical defect measurement (2009), and the method of optical batch molding of micro function structures (2019). In 2012, he received the JSPE Numata Memorial Paper Award for his nanometer measurement method of specular shapes. In addition, he has been awarded at many international conferences for his research on precision measurement.

Regarding industrial standardization, he has successively held the position of chairman of many drafting committees of Japanese Industrial Standards (JIS), the chairman of a domestic committee of International Organization for Standardization (ISO), and the chairman of JIS Technical Committee working on standardization development of related dimensional tolerances and geometrical tolerances of JIS and ISO. Then, in 2016, he received the commendation of Minister of Economy, Trade and Industry for his achievements in industrial standardization.

Professor Kiyoshi Takamasu has served as a JSPE vice chairman, JSPE Fellow, and the chairman of the Intellectual Nano Measurement Technical Committee in JSPE, and has also played a major role in the development of the JSPE itself. For internationalization of the JSPE, he organized the ISMTII2007 (International Symposium on Measurement Technology and Intelligent Instruments), ISMQC2010 (International Symposium on Measurement and Quality Control) and LPMI2014 (Laser Metrology for Precision Measurement and Inspection in Industry). In addition, he contributed in the establishment of the Asian Society for Precision Engineering and

Nanotechnology (ASPEN) and has been committed to cooperation in precision engineering in Asia. As mentioned above, Professor Kiyoshi Takamasu holds multiple achievements in academic, industrial, and educational fields by developing basic research and practical technology in high-precision measurement.



Fig. 2. Commemorative lecture: Kiyoshi Takamasu.



Fig. 3. Award ceremony. Dr. Takamasu (left), Dr. Ieki (center, JSPE President), and Dr. Obikawa (right).

Conference topics:

- Digital design and manufacturing systems
- CAD/CAM technologies
- Advanced cutting technologies
- Advanced grinding technologies
- Micro/Nano machining and figurings
- Nano-scale surface finishing
- Non-traditional machining and additive manufacturing
- Energy beam processing
- Advanced die/molding and polymer processing
- Advanced machine tools and elements
- Robotics and mechatronics
- Nano-scale measurements and calibrations
- Surface metrologies of nano-scale structures
- Mechano photonics engineering and optical applications
- Advanced image processing and applications
- Micro fabrications for functional surfaces
- MEMS/NEMS etc.

Important dates:

- Submission of 100 to 200 words abstract:
March 23, 2020
- Notification of abstract acceptance:
April 20, 2020
- Submission of manuscript for paper review:
June 15, 2020
- Notification of final acceptance:
August 17, 2020
- Submission of Camera-ready manuscript:
September 14, 2020

Introduction of FA Foundation Award

[Paper Award 2019]

Chip control in turning with synchronization of spindle rotation and feed motion vibration

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Call for Papers of ICPE2020

The 18th International Conference on Precision Engineering (**ICPE2020**) will be organized by the Japan Society for Precision Engineering (JSPE) and held on **23-27 November 2020 in Kobe, Japan**. The conference will be held at **The Kobe Chamber of Commerce and Industry** located in the Kobe port island which is artificial island at the port of Kobe.

